What is claimed is:

1. A method of manufacturing an electron-emitting device having an electroconductive film including an electron-emitting region arranged between a pair of device electrodes, characterized in that the process of forming an electroconductive film including an electron-emitting region comprises steps of applying a liquid containing the material of the electroconductive film to a substrate by an ink-jet method and thereafter detecting any defective condition in the applied liquid and applying the liquid containing the material again to the area detected for a defective condition in said applied liquid by an ink-jet method.

2. A method of manufacturing an electron-emitting device according to claim 1, wherein said step of detecting a defective condition in the applied liquid comprises a step of examining a precursor film of the electroconductive film formed by drying the applied liquid.

3. A method of manufacturing an electron-emitting device according to claim 2, wherein said step of examining a precursor film comprises a step of examining the location of said precursor film.

4. A method of manufacturing an electron-emitting

device according to claim 2, wherein said step of examining a precursor film comprises a step of examining the profile of said precursor film.

5. A method of manufacturing an electron-emitting device according to claim 2, wherein said step of examining a precursor film comprises a step of examining the presence of absence of a foreign object on said precursor film.

6. A method of manufacturing an electron-emitting device according to claim 2, wherein said step of applying the liquid containing the material again is conducted after a step of applying the solvent of the material to the precursor film detected to be defective by the step of examining the precursor film.

7. A method of manufacturing an electron-emitting device according to claim 6, wherein said solvent to be applied to the precursor film detected to be defective is the solvent used for the said liquid containing the material of said electroconductive film.

8. A method of manufacturing an electron-emitting device according to claim 6, wherein said solvent to be applied to the precursor film detected to be defective is a solvent containing a ligand which is chelatable

with a component element of said precursor film.

9. A method of manufacturing an electron-emitting device according to claim 6, wherein said application of the solvent of said precursor film is performed by means of an ink-jet system.

10. A method of manufacturing an electron-emitting device according to claim 2, wherein said step of applying the liquid containing the material again is conducted after a step of applying the solvent to the precursor film detected to be defective in the step of examining said precursor film and heating the applied solvent.

11. A method of manufacturing an electron-emitting device according to claim 10, wherein the solvent to be applied to the precursor film detected to be defective is the solvent used for the liquid containing the material of said electroconductive film.

12. A method of manufacturing an electron-emitting device according to claim 10, wherein the solvent to be applied to the precursor film detected to be defective is a solvent containing a ligand which is chelatable with a component element of

said precursor film.

13. A method of manufacturing an electron-emitting device according to claim 10, wherein said application of the solvent of said precursor film is performed by means of an ink-jet system.

14. A method of manufacturing an electron-emitting device according to claim 2, wherein said step of applying the liquid containing the material again is conducted after a step of applying the solvent to the precursor film detected to be defective in the step of examining said precursor film, heating the applied solvent and thereafter exposing the applied and heated region to a reducing atmosphere.

15. A method of manufacturing an electron-emitting device according to claim 14, wherein the solvent to be applied to the precursor film detected to be defective is the solvent used for the liquid containing the material of said electroconductive film.

16. A method of manufacturing an electron-emitting device according to claim 14, wherein the solvent to be applied to the precursor film detected to be defective is a solvent containing a

ligand which is chelatable with a component element of said precursor film.

17. A method of manufacturing an electron-emitting device according to claim 14, wherein said application of the solvent of said precursor film is performed by means of an ink-jet system.

18. A method of manufacturing an electron-emitting device according to claim 2, wherein said step of applying the liquid containing the material again is conducted after a step of applying the solvent to the precursor film detected to be defective in the step of examining said precursor film and sucking the solvent.

19. A method of manufacturing an electron-emitting device according to claim 18, wherein the solvent to be applied to the precursor film detected to be defective is the solvent used for the liquid containing the material of said electroconductive film.

20. A method of manufacturing an electron-emitting device according to claim 18, wherein the solvent to be applied to the precursor film detected to be defective is a solvent containing a

ligand which is chelatable with a component element of said precursor film.

21. A method of manufacturing an electron-emitting device according to claim 18, wherein said application of the solvent of said precursor film is performed by means of an ink-jet system.

22. A method of manufacturing an electron-emitting device according to claim 1, wherein said step of detecting a defective condition in the applied liquid comprises a step of examining the electroconductive film formed by drying and heating the applied liquid.

23. A method of manufacturing an electron-emitting device according to claim 22, wherein said step of examining the electroconductive film comprises a step of measuring the electric resistance of the electroconductive film.

24. A method of manufacturing an electron-emitting device according to claim 22, wherein said step of applying the liquid containing the material again is conducted after a step of removing the electroconductive film detected to be defective as a result of examination of said electroconductive film.

25. A method of manufacturing an electron-emitting device according to claim 24, wherein said step of removing the electroconductive film detected to be defective comprises a step of taking up the defective electroconductive film by means of an adhesive medium.

26. A method of manufacturing an electron-emitting device according to claim 22, wherein said step of applying the liquid containing the material again is conducted after a step of exposing the electroconductive film detected to be defective as a result of examining the electroconductive film to a reducing atmosphere and thereafter removing the electroconductive film.

27. A method of manufacturing an electron-emitting device according to claim 26, wherein said step of removing the electroconductive film detected to be defective comprises a step of taking up the defective electroconductive film by means of an adhesive medium.

28. A method of manufacturing an electron-emitting device according to claim 1, wherein said step of detecting a defective condition in the applied liquid comprises a step of examining the

electroconductive film including the electron-emitting region formed in the electroconductive film formed by drying and heating the applied liquid.

29. A method of manufacturing an electron-emitting device according to claim 28, wherein said step of examining said electroconductive film including said electron-emitting region comprises a step of observing the relationship between the voltage (Vf) applied to the electroconductive film including the electron-emitting region and the electric current (If) caused to flow by the applied voltage.

30. A method of manufacturing an electron-emitting device according to claim 28, wherein said step of examining said electroconductive film including said electron-emitting region comprises a step of observing the relationship between the voltage (Vf) applied to the electroconductive film including the electron-emitting region and the electric current (If) caused to flow by the applied voltage and determining by calculation the peak value of $(d^2If/dVf^2)$ from said relationship between Vf and If.

31. A method of manufacturing an electron-emitting device according to claim 28, wherein said step of applying the liquid containing the

material again is conducted after a step of exposing the electroconductive film detected to be defective as a result of examining the electroconductive film including the electron-emitting region to a reducing atmosphere and subsequently removing the electroconductive film.

32. A method of manufacturing an electron-emitting device according to claim 31, wherein said step of removing the electroconductive film including the electron-emitting region and detected to be defective comprises a step of taking up the defective electroconductive film including the electron-emitting region by means of an adhesive medium.

33. A method of manufacturing an electron-emitting device according to any of claims 1 through 32, wherein said ink-jet systems is a system of ejecting liquid drops from a nozzle as a piezo-electric element arranged therein is deformed.

34. A method of manufacturing an electron-emitting device according to any of claims 1 through 32, wherein said ink-jet systems is a system of ejecting liquid drops from a nozzle by heating the liquid and causing it to bubble.

35. A method of manufacturing an electron source comprising a plurality of electron-emitting devices arranged on a substrate, each having an electroconductive film including an electron-emitting region and formed between a pair of device electrode, characterized in that said electron-emitting devices are manufactured by a method according to any of claims 1 through 32.

36. A method of manufacturing an electron source according to claim 35, wherein said ink-jet systems is a system of ejecting liquid drops from a nozzle as a piezo-electric element arranged therein is deformed.

37. A method of manufacturing an electron source according to claim 35, wherein said ink-jet systems is a system of ejecting liquid drops from a nozzle by heating the liquid and causing it to bubble.

38. A method of manufacturing an image-forming apparatus comprising an electron source formed by arranging a plurality of electron-emitting devices on a substrate, each having an electroconductive film including an electron-emitting region formed between a pair of device electrodes, and an image-forming section for forming an image by irradiation of electrons emitted from the electron source, characterized in that

said electron-emitting devices are manufactured by a method according to any of claims 1 through 32.

39. A method of manufacturing an image-forming apparatus according to claim 38, wherein said ink-jet systems is a system of ejecting liquid drops from a nozzle as a piezo-electric element arranged therein is deformed.

40. A method of manufacturing an electron source according to claim 38, wherein said ink-jet systems is a system of ejecting liquid drops from a nozzle by heating the liquid and causing it to bubble.

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